

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1                   1.       (Previously presented): A computer-implemented method for generating a  
2   portal page, the method comprising:  
3                   forwarding information, from a first computer system to a second computer  
4   system, that configures the second computer system to display one or more graphical user  
5   interfaces that enable users of the second computer system to interactively construct software  
6   code representing portlets configured to generate information displays when included on the  
7   portal page;  
8                   forwarding information, from the first computer system to the second computer  
9   system, that configures the second computer system to display a first user interface in the one or  
10  more graphical user interfaces based on selections by the users of the second computer system of  
11  data types for data sources associated with portlets being designed by the users, the first user  
12  interface configured to receive access information declaratively specified by the users of the  
13  second computer system during interactive sessions with the one or more graphical user  
14  interfaces of the data sources associated with the portlet being designed by the users;  
15                  forwarding information, from the first computer system to the second computer  
16  system, that configures the second computer system to display a second user interface in the one  
17  or more graphical user interfaces, the second user interface configured to receive layout  
18  information declaratively specified by the users of the second computer system during the  
19  interactive sessions with the one or more graphical user interfaces, the layout information  
20  indicative of at least one layout style from one or more layout styles presented by the second user  
21  interface for data from the data sources associated with the portlets being designed by the users;  
22                  determining a data source specification using a computer system based on access  
23  information associated with a first data source of a first data type selected by a first user of the

24 second computer system, the access information received via the first user interface from the first  
25 user of the second computer system during a first interactive session with the one or more  
26 graphical user interfaces;

27 determining a layout specification using the computer system based on a first  
28 layout style in layout information received via the second user interface from the first user of the  
29 second computer system during the first interactive session the one or more graphical user  
30 interfaces;

31 generating software coding using the computer system that represents a portlet  
32 being designed by the first user of the second computer system during the first interactive session  
33 with the one or more graphical user interfaces based on the data source specification and the  
34 layout specification, the portlet configured by the software coding to obtain data from the first  
35 data source and to create at least one visual representation according to the first layout style  
36 within the portal when included on the portal page of the data obtained from the first data source;

37 retrieving data for the first data source based on the software coding that  
38 represents the portlet;

39 determining a layout within the portlet for the data retrieved for the first data  
40 source based on the software coding that represents the portlet; and

41 generating the portal page using the portlet.

1 2. (Previously presented): The method of claim 1, wherein determining the  
2 data source specification based on the access information associated with the first data source of  
3 the first data type selected by the first user of the second computer system comprises determining  
4 the data type of the first data source.

1 3. (Previously presented): The method of claim 2, wherein determining the  
2 data type of the first data source comprises determining at least one of a spreadsheet data type,  
3 XML data type, SQL data type, web service data type, and a web page data type.

1 4. (Previously presented): The method of claim 1, wherein determining the  
2 data source specification based on the access information associated with the first data source of

3 the first data type selected by the first user of the second computer system comprises determining  
4 a path to the first data source.

1 5. (Previously presented): The method of claim 4, wherein determining the  
2 path comprises determining a URL.

1 6. (Previously presented): The method of claim 1, wherein determining the  
2 data source specification based on the access information associated with the first data source of  
3 the first data type selected by the first user of the second computer system comprises determining  
4 a filtering specification based on filter information received from the first user during the first  
5 interactive session via a third graphical user interface in the one or more graphical user  
6 interfaces, the third graphical user interface configured to receive data filters specified by the  
7 users of the second computer system that filter data retrieved from the data sources for the  
8 portlets being designed by the users.

1 7. (Previously presented): The method of claim 1, wherein determining the  
2 layout specification based on the first layout style in the layout information comprises  
3 determining the first layout style as at least one of a tabular layout, chart layout, news layout,  
4 form layout, and bullet layout.

1 8. (Previously presented): The method of claim 1, wherein determining the  
2 layout within the portlet for the data retrieved for the first data source comprises formatting the  
3 data retrieved for the first data source into the first layout style.

1 9. (Original): The method of claim 1, wherein the portal page comprises a  
2 web-based page.

1 10. (Previously presented): The method of claim 1, wherein the portal page  
2 comprises a non web-based page.

1 11. (Previously presented): A computer-implemented method for generating a  
2 user-customizable graphical user interface (GUI), the method comprising:

3 forwarding information, from a first computer system to a second computer  
4 system, that configures the second computer system to display one or more graphical user  
5 interfaces that enable users of the second computer system to interactively construct software  
6 code representing objects configured to generate information displays within the user-  
7 customizable GUI;

8 forwarding information, from the first computer system to the second computer  
9 system, that enables the display of a data source interface in the one or more graphical user  
10 interfaces based on selections by the users of the second computer system of data types for data  
11 sources associated with objects being designed by the users, the data source interface configured  
12 to receive access information declaratively specified by the users of the second computer system  
13 during one or more interactive sessions with the data source interface of the data source  
14 associated with the object being designed by the users;

15 determining a declarative specification using a computer system based on access  
16 information associated with a first data source of a first data type provided by a first user of the  
17 second computer system during an interactive session with the data source interface;

18 retrieving, using the computer system, data for the first data source using the  
19 access information;

20 forwarding information, from the first computer system to the second computer  
21 system, that enables the display of a layout interface in the one or more graphical user interfaces,  
22 the layout interface configured to receive layout information declaratively specified by the users  
23 of the second computer system during the one or more interactive sessions with the one or more  
24 graphical user interfaces, the layout information indicative of at least one layout options from  
25 one or more layout options presented by the layout interface for data from the data sources  
26 associated with the objects being designed by the users;

27 determining a layout specification using the computer system based on a first  
28 layout option provided by the first user of the second computer system during an interactive  
29 session with the layout interface, the layout specification indicative of one or more visualizations  
30 within the object being designed by the first user of the data retrieved from the first data source  
31 when included on the user-customizable GUI; and

32 generating, using the computer system, software coding that represents the object  
33 being designed by the first user based on the declarative specification for the data source and the  
34 layout specification, the object configured to create a graphical user interface when included on  
35 the user-customizable GUI, the graphical user interface of the object displaying the retrieved data  
36 from the first data source according to the first layout option provided by the user.

1 12. (Previously presented): The method of claim 11, wherein forwarding  
2 information, from the first computer system to the second computer system, that enables the  
3 display of the data source interface comprises forwarding information that enables the display of  
4 one or more data types in the data source interface and that further enables the users of the  
5 second computer system to specify data type for the data sources associated with objects being  
6 designed by the users.

1 13. (Original): The method of claim 12, wherein the one or more data types  
2 comprise at least one of a spreadsheet data type, XML data type, SQL data type, web service  
3 data type, and a web page data type.

1 14. (Previously presented): The method of claim 12, wherein retrieving, using  
2 the computer system, the data for the first data source using the access information comprises  
3 using the first data type and the access information to retrieve the data for the first data source.

1 15. (Original): The method of claim 11, wherein the access information  
2 comprises a URL.

1 16. (Previously presented): The method of claim 11, further comprising  
2 forwarding information, from the first computer system to the second computer system, that  
3 enables the display of a filtering interface in the one or more graphical user interfaces, the  
4 filtering interface including filtering options for the retrieved data that enables the users of the  
5 second computer system to declaratively specify which data to use in the user-customizable GUI.

1                   17.     (Previously presented): The method of claim 11, wherein forwarding  
2     information, from the first computer system to the second computer system, that enables the  
3     display of the layout interface comprises forwarding information that enables the display of one  
4     or more layout options and that enables the user to declaratively specify a layout type.

1                   18.     (Original): The method of claim 17, wherein the layout type comprises at  
2     least one of a tabular layout, chart layout, news layout, form layout, and bullet layout.

1                   19.     (Previously presented): The method of claim 17, further comprising  
2     forwarding information, from the first computer system to the second computer system, that  
3     enables the display of a layout type interface that enables the user to further specify how the data  
4     from the data sources associated with the objects being designed by the users should be laid out  
5     in the user-customizable GUI using the layout type.

1                   20.     (Original): The method of claim 11, wherein the data source interface  
2     does not include the access information for the data source before it is declaratively specified by  
3     the user.

1                   21.     (Previously presented): The method of claim 11, wherein the user-  
2     customizable GUI comprises a web-based page.

1                   22.     (Previously presented): The method of claim 11, wherein the object of the  
2     user-customizable GUI comprises a portlet.

1                   23.     (Previously presented): A computer-implemented method for  
2     declaratively generating a page using an interface configure to enable a user to create objects that  
3     generate one or more visual representation of data when associated with the page, the method  
4     comprising:

5                         forwarding information, from a first computer system to a second computer  
6     system, that configures the second computer system to display the interface to the user to enable

7 the user to construct software code representing the objects that generate one or more visual  
8 representations of data on the page;

9 forwarding information, from the first computer system to the second computer  
10 system, that enables the user to select during an interactive session with the interface one or more  
11 data types presented by the interface for data sources associated with the objects being designed  
12 by the user, the interface configured based on the information to receive access information  
13 declaratively specified by the user during the interactive session with the interface of the data  
14 sources associated with the objects being designed by the user;

15 receiving, at a computer system, first input from the user during one or more  
16 interactive sessions between the user and the interface, the first input indicative of access  
17 information associated with a first data source of an object that generates one or more visual  
18 representation of data when associated with the page;

19 retrieving, using a computer system, data from the first data source using the  
20 access information;

21 forwarding information, from the first computer system to the second computer  
22 system, that enables the user of the second computer system to select during an interactive  
23 session with the interface one or more layout types presented by the interface for data obtained  
24 from the data sources associated with the objects being designed by the user, the interface  
25 configured based on the information to receive a selection by the user during the interactive  
26 session with the interface of at least one layout style from one or more layout styles presented by  
27 the interface for the data from the data sources associated with the objects being designed by the  
28 user;

29 determining, using a computer system, layout information for the data retrieved  
30 from the first data source from second input from the user during the one or more interactive  
31 sessions between the user and the interface, the layout information indicative of one or more  
32 visualizations in a first layout style selected by the first user of the data retrieved from the first  
33 data source for the object when included on the page;

34 generating software coding for the object using a computer system that displays  
35 the one or more visualizations of the data retrieved from the first data source according to the

36 layout information in response to the one or more interactive sessions between the user and the  
37 interface; and

38 generating the page using a computer system using the object.

1 24. (Previously presented): The method of claim 23, wherein receiving the  
2 first input comprises receiving a declarative specification of a data type for the data source.

1 25. (Original) The method of claim 23, wherein the access information  
2 comprises a path to the data source.

1 26. (Original): The method of claim 25, wherein the path comprises a URL.

1 27. (Previously presented): The method of claim 23, wherein receiving the  
2 first input comprises receiving a filtering specification that filters data retrieved from the data  
3 source.

1 28. (Original): The method of claim 23, wherein the page comprises a web-  
2 based page.

1 29. (Previously presented): The method of claim 23, wherein the object on  
2 the page comprises a portlet.